

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) An injection device comprising:

a housing having a proximate end and a distal end, the distal end having an opening therein;

a cartridge barrel within the housing, the cartridge barrel having proximate and distal ends;

a needle cannula fixed to the distal end of the cartridge barrel, or attachment means for fixing a needle cannula to the distal end;

a stopper within the cartridge barrel;

a driver coupled to the stopper;

a shield coupled to the housing and slidable between a retracted and an extended position;

shield driver means activatable to urge the shield from the retracted position to the extended position; and

sensor means forming a portion of said driver and in slidable contact with an exterior surface of said cartridge barrel, the sensor means arranged to detect an end profile of the barrel and to automatically trigger activation of the shield driver means upon detection.

2. (Previously Presented) An injection device according to claim 1, wherein the shield driver means comprises a coil spring within which the cartridge barrel is located.

3. (Previously Presented) An injection device according to claim 2, wherein said shield driver means comprises a release mechanism for fixing the spring relative to the driver in a compressed state, the release mechanism being actuatable by said sensor means to release the spring.

4. (Previously Presented) An injection device according to claim 1, wherein the driver is arranged to be manually pushed through the housing, the driver carrying the shield driver means to a shield activation point.

5. (Previously Presented) An injection device according to claim 4, wherein the coil spring is fixed at its proximal end to the driver, and the spring release mechanism fixes the spring to the driver at its distal end.

6. (Previously Presented) An injection device according to claim 1, wherein the shield driver means additionally provides a driving force for said driver.

7. (Previously Presented) An injection device according to claim 6, wherein the coil spring is fixed at its proximal end to the housing, and the spring release mechanism fixes the spring to the driver at its distal end.

8. (Previously Presented) An injection device according to claim 1, wherein the sensor means comprises one or more deformable arms attached or formed integrally with the driver.

9. (Previously Presented) An injection device according to claim 8, wherein each arm is biased against the exterior surface of the cartridge barrel and arranged to follow the surface profile of the barrel.

10. (Previously Presented) An injection device according to claim 8, wherein the release mechanism comprises a catch provided on a radial outer surface of each deformable arm.

11. (Previously Presented) An injection device according to claim 1, wherein said driver and said sensor means are a single molded plastic element.

12. (Currently Amended) An injection device comprising:

a cartridge barrel, said barrel arranged to contain a stopper and fluid therein and wherein said barrel has a distal first end and a second open end and a second end having a radial flange adjacent to the second end;

a needle cannula having a sharp distal end and a second open end, the fluid being in communication with said needle second end, and wherein said needle second end is coupled at said distal first end;

a housing surrounding said barrel, said housing having a distal open end adjacent the needle and a proximate end having a flange receiving the radial flange of the barrel;

a shield releasably retained by the housing, said housing and said shield arranged in a sliding relationship with the shield positioned primarily within the housing until release;

a driver, said driver positioned partially within said housing, said driver equipped with at least one deformable side arm sensing the distal first end of the barrel, said driver slidably located within said housing for moving the stopper forward; and

a biasing spring, said biasing spring further adapted to bias the shield to automatically cover the needle after said driver detects the end of the barrel.

13. (Previously Presented) The injection device of claim 12, wherein the biasing spring is carried by the driver and is released to bias the shield when the end of said barrel is reached.

14. (Currently Amended) The injection device of claim 12, wherein the driver has two sensor elements to detect the distal end of the barrel.

15. (Previously Presented) The injection device of claim 12, wherein said housing and shield are equipped with latches.

16. (Previously Presented) The injection device of claim 15, wherein said latches prevent premature release of the shield.

17. (Previously Presented) The injection device of claim 15, wherein said latches retain the shield in a needle shielded position.

18. (Previously Presented) The injection device of claim 1, wherein said driver is deformable during assembly.